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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,166	03/24/2004	Toru Ishida	250444US0CONT	6454
22850	7590	05/31/2006		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER ASINOVSKY, OLGA	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/807,166	ISHIDA, TORU	
	<b>Examiner</b>	<b>Art Unit</b>	
	Olga Asinovsky	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119 -

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5 pages</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hedhli et al U.S. Patent 6,680,357.

Hedhli discloses acrylic modified fluoropolymer having core/shell structure. A core segment includes polyvinylidene fluoride polymer, column 3, lines 58-60 and column 4, lines 15-30. A shell coating segment is formed from acrylic polymerizable monomer(s), column 5, lines 47-67 and column 6, lines 1-19. The resulting modified fluoropolymer dispersion has a Tg of 40 to 60.3, column 13, Table 1. The shell can include at least one (meth)acrylic acid ester. The modified fluorinated polymer is formed by seed polymerization technique. The core segment and shell segment can include functional groups capable of entering into crosslinking reaction, column 5, lines 53-54. The

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fluoropolymer by itself is seed latex. The process for obtaining fluoropolymer copolymer can be performed by emulsion polymerization in one or more stages in the presence of emulsifier, column 7, lines 1-65, for the present claims 1-6. The acrylic modified fluoropolymers are in solid form obtained by drying step, column 11, line 31. Reference discloses that the Tg of the final acrylic modified fluoropolymer can be controlled by the Tg of the selected monomer mixture providing the desired acrylic phase, column 9, lines 42-52.

Hedhli does not disclose Tg for core seed fluoropolymer particle for the present claims 2 and 7. The Tg of the core particles of the composite fluorinated copolymer in the present claims 2 and 7 is from -40 to 50 C. It is reasonable to presume that fluoropolymer based on a vinylidene fluoride copolymer, column 4, lines 17-27, can have a Tg in the broad range from -40 to 50C. It is a burden on the applicant to provide the difference in order to overcome this rejection under *In re Fitzgerald* 205 USPQ 594.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brothers et al U.S. Patent 6,232,372 in view of Kerbow et al U.S. Patent 5,576,106 or Shimizu et al U.S. Patent 5,030,667.

6. Brothers discloses a composition comprising fluoropolymer particles dispersed in a polymer binder such that a core of the fluoropolymer is chemically bound to said polymer binder. The fluoropolymer core is in the form of particle. The fluoropolymers can include difference (co)monomers including functional group such that a melting temperature of core segment can be no greater than 31 C, column 4, lines 28-41. The fluoropolymer core is coated with polymer binder, column 7, lines 64-67. Polymer binder shell can be formed from ethylenically unsaturated compounds having acid, ester or anhydride functionality, column 66-67 and column 12, lines 1-10. The resulting modified fluoropolymer is in the form of dried powder, column 17, lines 11.

7. Brothers does not disclose the specified (meth)acrylic monomer having high Tg.

Kerbow discloses grafted fluoropolymer powder. Useful ethylenically unsaturated grafting compound include carboxylic acids esters and a hydrides, column 4, lines 1-14. The grafting compound is equivalent to a polymer sell. The grafted fluoropolymer is used for laminating purposes under high temperature performance at 300 C, column 8, line 44.

Shimizu'667 discloses core/shell copolymer having shell made of a polymer having a Tg of at least 50 C.

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It would have been obvious to one of ordinary skill in the art to consider that a coated fluoropolymer particle in Brothers invention can have a polymer binder shell having higher Tg than fluoropolymer core particle as disclosed by Kerbow because the same polymer sell can be used in both inventions, or a coated fluoropolymer particle in Brothers invention can have a polymer shell having the high thermal decomposition temperature as disclosed by Shimizu because the analogous polymer based on acrylate Polymer can be selected in both inventions.

***Claim Rejections - 35 USC § 112***

8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Term "characterized" does not properly introduce the claimed subject matter. The phrase "characterized by" should be deleted.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References have been considered. The closest reference is Shimizu et al U.S. patent 5,030,667. Reference discloses a core/shell copolymer comprising a core formed from fluoropolymer and a shell formed from a polymer having high glass transition temperature of at least 50 C.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Olga Asinovsky  
Examiner  
Art Unit 1711

May 28, 2006



James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700